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A Suggested Self-Evaluation Rating Scale for Industrial Arts Teachers

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A SUGGESTED SELF-EVALUATION RATING SCALE FOR INDUSTRIAL ARTS TEACHERS

by

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INTRODUCTION

The teacher and the effectiveness of his teaching are the most important factors in any school situation. Modern educational attitudes have elevated the teacher and teaching to a professional status. With this advance have come additional work and responsibility for the teacher and it behooves the conscientious teacher to strive sincerely to improve his own teaching so that the objectives of general education can be attained successfully. Self-evaluation, or self-appraisal, is an extremely valuable method by which teachers of industrial arts, as well as teachers in other fields, can analyze their teaching practices and get a clearer picture of themselves and their accomplishments as teachers.

This study is an attempt to survey the various criteria by which effective teaching can be measured and to formulate a self-evaluation rating scale for teachers of industrial arts. Though not all-inclusive in scope, the benefits to be derived from the use of this type of self-evaluation are many, and the teacher must face the responsibility of self-appraisal if he is to advance in his profession.

The Meaning of Self-Evaluation

Evaluation, very simply stated, is the art of appraising, or estimating the value of something. In a broader sense, evaluation is actually one aspect of professional growth. Evaluation is part of the process by which people make choices and come to decisions. Through this process, individuals make choices which affect the direction of their growth. In making choices, one thing is chosen because it seems to offer a more satisfactory solution to the problem, and another thing is rejected because it seems to give less hope for satisfaction of the need. These choices are made with the purpose of influencing the future course of action.

Evaluation, then, is concerned with the improvement of choices. It is not merely a judgement passed on what has already occurred, with no reference to the future. Evaluation should look to the past only for the help it may receive in bettering the future. If looked upon as an end in itself, rather than a means to an end, evaluation is a weak and negative process. As such, it would have little to do with future growth. Evaluation should be a continuous process--an inseparable part of a teacher's program from the very beginning--never looked upon as an end product, but rather a means for day-by-day improvement.[1]

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1. NEA, Association for Supervision and Curriculum Development, Better Than Rating, (Commission on Teacher Education, Washington, D. C., 1950), pp. 119-24

When a teacher is willing and anxious to appraise himself and his teaching accomplishments honestly in the light of this concept of evaluation, he shows definite concern about his professional standing. Furthermore, he will be more able to reject those practices which are less effective in achieving his purposes, and to acquire those techniques and qualities which will help him to reach the goal of being a successful teacher.

The Need for Self-Evaluation

The actions of individuals--whether connected with teaching or simply in every day life--are being appraised constantly by others. The individual may not be completely aware of this fact, but as one would take the time to reflect upon the conversations that may be heard in various situations, it becomes evident that the actions of others are constantly being appraised, though quite unguided, unsound, and inaccurate this appraisal may be at times. The teacher and his teaching practices are quite often the subject of such conversations--among fellow teachers, among students in the hallway between classes, and among parents at social gatherings. Someone may criticize, someone else may praise highly--such judgement of a teacher's efforts can have a marked effect upon his standing in the community, in the school, and even in his own classroom. As we brood over the criticisms or smile over the lavish praise, we wonder to what extent either comment is justified. Since evaluation of a teacher involves making the choices concerning what practices are "good" or "bad" in connection with his teaching techniques, it is dangerous to leave this matter in the

hands of those who are not directly affected by the choices. It would seem, therefore, that self-evaluation would be a most important practice for the teacher to follow in order to see himself and his teaching practices more clearly.

Most individuals who have chosen teaching as a career have a true desire to be a good teacher, primarily because they want to be successful in the field they have chosen and because they realize how great is their responsibility in helping to develop good character in the young people they are working with, and to help them become responsible citizens, worthy of their place in society. Basically, the objectives for industrial arts are the same as those of general education. They differ only in that they are applied to a specific phase of education which involves the industrial arts work.

Most teachers regard themselves as satisfactory teachers--but the conscientious teacher would often ask himself questions like this--"How good a teacher am I?" "Am I really getting the job done?" "Am I as good as I can be or as I ought to be?" "Do my students agree that I am as good as I think I am?" "How do I know whether I am doing a good job or not?"

Are there factors that can be seen and noted and thereby evaluated in an attempt to answer questions like these?
A comparative illustration might help to show that teaching can be evaluated, just as any type of work can be appraised. One can rather quickly tell whether a house has been constructed up to standards and whether the craftsmanship is of a high quality by merely making a brief inspection. It is not difficult to

find a number of things which can be seen and which tell the story of either good or poor construction and workmanship. One can notice such items as the windows--whether they stick or not, or if the glass is spattered with paint; the light switches--whether they are easily accessible or not; the drawers--whether they operate smoothly or not; and whether the walls are plumb. Many items such as these can be quickly noted during even a brief inspection of a house, and the quality of the construction of the house can be measured by inspection. It would follow, then, that the quality of an instructor's teaching ability can be measured in the same way--by careful inspection and evaluation.

When one realizes the need and value of self-evaluation, the next point of concern would be, naturally, what criteria should be used as a basis for conducting the evaluation of one's self as an industrial arts teacher.

Criteria for Self-Evaluation

The criteria for self-evaluation will be divided into two broad areas--personal and professional elements. The personal elements, as treated in this paper, are those elements that constitute a teacher's character and personality.

PERSONAL ELEMENTS

The word "personality" is a term with many connotations. To some it means the amount of charm, power, and leadership one possesses. As commonly used, the term "personality" stands for leadership qualities in politicians, for traits that lead to

achievement in the professions, to success in business, and to superior service in teaching. One's personality, as others see it, is the outward expression of one's inner traits. As seen in connection with education, personality involves sensitiveness to situations, an evaluation of the factors involved, and the purpose to do something about it. A good personality is of great importance to the teacher if he expects to be a success in his profession. The truth of this statement becomes more evident when it is realized that some of the deepest and most far-reaching impressions made on individuals are frequently the result of influences and associations quite independent of the spoken or written word. An inference that may be drawn from this is that it is highly important that teachers develop good personality because they are so often regarded by students, and even adults, as models that set standards of conduct and examples of good citizenship.[2]

Appearance and Manner

The appearance of the teacher may well be considered as one of the personality traits. Since the teacher expects his students to give him their attention, and since the teacher moves among his students as a guide, a leader, a director, and a counselor, he should make every effort to be neat and well groomed. He should wear the proper protective clothing in the shop and see that it is laundered regularly. The teacher should try to maintain good posture and to overcome any mannerisms which

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2. F. T. Struck, Creative Teaching, (John Wiley and Sons, Inc., New York, 1938), pp. 48-50

might tend to distract the attention of his students.

In dealing with so many different individuals, as the teacher does in the classroom, it is important that he be able to remain well-poised in the face of petty annoyances. Before one can hope to lead others, one must himself have, and give evidence of being, master of his own emotions. In the teacher one expects dignity, poise, reserve, and calmness under stress. By being an example of self-control, the teacher makes effective teaching possible, and contributes indirectly--but positively--toward molding the character of the pupils.

Honesty is a trait that should be exemplified in the teacher--honesty in dealing with the individual students; honesty in appraising the students' work; in talking with parents about their children; and in keeping promises, whether to students or adults. If a teacher possesses such traits as honesty and self-control, he will be more able to instil in the students such moral and spiritual principles as will enable them to grow into courageous, decent people.

The teacher must be aware of the fact that he is teaching persons--not merely handling subject matter--and that each of these persons is an individual with varied interests and aptitudes. The teacher can accomplish more with his students if he strives to acquaint himself with each individual and the varying interests and abilities of each one. The students will place greater confidence in the teacher if he is willing to give them personal attention in accordance with their individual differences.

It is highly important that the teacher show confidence in himself and his understanding of the material he presents to his classes. A teacher who shows evidence of lack of self-confidence could hardly expect his students to confide in him, either. By the same token, one who lacks enthusiasm could hardly expect his students to be enthusiastic about class work. Enthusiasm is contagious, and in teaching it is a powerful motivating force that inspires effort on the part of those who come within its reach. One's enthusiasm is evidenced by voice quality, facial expression, and by general attitude and outlook. A poker face could hardly engender enthusiasm in others, but responsiveness is pleasing and stimulating to others. Furthermore, "Enthusiasm does not admit that a thing cannot be done--it accomplishes what looks like the impossible. It finds a way. If headway cannot be made in one direction, another direction is taken. If progress is blocked straight ahead, ways are tried around, over, and under the obstacle."[3]

The teacher should always be courteous and considerate in his contacts with others. For almost everyone, it is extremely important to learn to get along in a friendly and harmonious way with others. The teacher is in an excellent position to exemplify this trait, and at the same time encourage his students in learning to mix with people and win the respect of others.

Voice and Quality of English

The voice is a very important factor in teaching. The teacher may have no actual speech defects and still not know how to use his voice as a teacher. One should consider carefully the quality of his

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3. Ibid., p. 58

voice. It should not be too high-pitched; it should not sound strained or breathy, nor nasal in quality; it should be clear and distinct, and well adapted to the size of the listening group, and the size and accoustic properties of the shop or classroom. Unpleasant speech mannerisms should be discovered and overcome. The teacher should not speak too fast, nor on the other hand, in a drawling manner. He should not speak gruffly, too slowly, nor with an affected accent. An uncertain, halting, or stumbling manner of speaking should be avoided. One should be careful to pronounce words correctly, enunciate clearly, and to show evidence of an adequate vocabulary. Phrasing should be adapted to the audience--explanations and instructions should be stated in such a manner that the students can understand easily, and technical terms should certainly be used correctly in the shop or classroom.[4]

Ingenuity and Resourcefulness

It is quite obvious that a teacher should be punctual in meeting his classes and he should not be absent from class any more than is necessary. The teacher who is regular and punctual in his attendance has a right to expect the same from his students. If the teacher is in the room and has the period's work already planned and organized, he will avoid many discipline problems because students will not be wandering aimlessly about in the room or sitting in their seats with nothing to do. When students are occupied with work that is interesting to them, and worthwhile, there will be very little misbehavior. It is the idle hands that get into difficulty. A teacher should always have some jobs in reserve that can be assigned to the students who finish their work sooner than the others. Keeping order in a class-

4. Raleigh Schorling and Howard T. Batchelder, Student Teaching in Secondary Schools, (The McGraw-Hill Book Co., Inc., New York, 1956), pp. 16-17

room is a real problem, however, and in spite of all, disciplinary problems will arise. In dealing with such problems, the teacher should never punish an entire group for the acts of one individual. Additional schoolwork should never be assigned as a means of punishment. Penalties used should not create an obvious hardship on the teacher, because this may give the student a keen sense of satisfaction and thus defeat the purpose. Sarcasm and ridicule should be avoided. Teachers should remember that students are not just so many objects devoid of feelings or human inclinations. Students are human beings with all the sensitiveness of human beings and to humiliate an individual in the presence of others through the employment of sarcasm or ridicule may serve to lessen the respect that the entire group might have had for the teacher. The teacher should avoid making threats because it may tempt an individual to take the dare and it may be extremely difficult to carry out the action threatened. Corporal punishment has very little place in the junior and senior high schools. In general, students of this age group are beyond the age where corporal punishment may be justified. Above all, the teacher should not lose his self-control in the face of disciplinary problems. There may be times for righteous indignation but self-control is necessary at all times.[5]

The teacher may often find himself faced with new or unusual situations, disciplinary or otherwise. The ability to adapt to these situations and cope with them gives evidence of a teacher's ability to solve his own problems instead of having to depend upon others, such as his supervisors and fellow teachers, to solve them for him.

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5. F. T. Struck, Op. Cit., pp. 80-81

In summarizing the importance of the personality of the teacher, it should be remembered that the teacher should be more interested in teaching persons rather than training in subject matter, and that if industrial education is to more adequately prepare individuals for their greatest self-realization, that training in character traits cannot be ignored. It would follow, therefore, that the teacher should possess those qualities that will help to foster in the students worthy character and effective citizenship.

PROFESSIONAL ELEMENTS

The preceding paragraphs have been concerned with the personal qualities of a teacher which can be used as criteria for self-evaluation. The other broad area to be considered in this paper includes those professional and social elements which contribute to teaching success and which can also be considered as criteria for self-evaluation. These professional elements include the teacher's knowledge of his subject matter, his various techniques of instruction, shop management, professional growth, cooperation, teacher-student relationships, and teacher-parent relationships. The effectiveness of the industrial arts teacher will depend greatly upon his possession of these qualities which are representative of all good teachers.

Knowledge of Subject Matter

The industrial arts subject matter content relative to the materials, tools, processes, and knowledge involved, is extremely broad and extensive, if the areas of wood, metal, electricity, graphic arts, drafting, and crafts are to be considered at all seriously in the industrial arts program. It is evident, then, that no one teacher can be an expert in

all those fields. He can be a master of one or two areas, be quite competent in one or two others, be somewhat familiar with all, and at the same time be constantly challenged to extend his knowledge and skills as much as possible.

The shop teacher should possess at least as much manipulative skill as he expects to develop in his pupils. The industrial arts teacher is not expected to teach a vocation as such, but this does not infer that he should not be able to successfully demonstrate the fundamental skills in such subjects as he includes in his courses. This ability is a fundamental requirement for a successful program.

The industrial arts teacher should have considerable information about the industries. The specific industries that the teacher will emphasize in his classes will depend, for the most part, upon the industrial needs of his teaching locality; however, it is desirable that the pupils be given an accurate conception of the industries as a whole.

The shop teacher needs knowledge which will help him understand his students, organize his teaching materials, and to interpret and put into effective operation the aims and objectives of his courses. All this should be done in the light of an adequate understanding of the social and individual differences among the students in his classes.

While there is much value in specialized training for the industrial arts teacher, the greatest opportunity for development will probably come when the teacher is on the job and responsible

for his own classroom and shop. Real experiences faced there will help to crystalize the learning and growing that has taken place during teacher training. Once on the job in his own shop, the industrial arts teacher cannot consider his preparation at an end. It is a never-ending process for good teachers. Attendance at conventions and summer school, professional reading, and occassional changes of position are helpful agencies of growth and advancement.[6]

Techniques of Instruction

An industrial arts subject or combination of subjects can be mastered fully for teaching purposes, and the results of teaching will still be poor unless certain teaching methods are mastered also. The importance of careful planning can hardly be over-emphasized. Although responsible positions everywhere require planning, there is probably no type of work where the results of poor planning are so devastating as in teaching. If a teacher does not have definitely in mind what is to be accomplished during a period, very little that is worth while is likely to be accomplished. If a teacher drifts into the habit of teaching haphazardly through memory, he is likely to leave out many important instructional points. His daily instruction may lack logical sequence, and the course itself may become static over the years since the teacher cannot see the mistakes he is making.

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6. Marshall L. Byrn and Francis W. Dalton, Preparation of the General Shop Teacher, Industrial Arts and Vocational Education, (June, 1952), pp. 179-80

"Careful planning makes the job meaningful and puts the work of the teacher on a scientific basis. Careful planning provides also for careful evaluation of the progress of students. Plans keep the class and the teacher on the track and provide an opportunity for students to move toward established goals in the allocated time."[7] A lengthy plan developed for the sake of the plan itself is of very little value. The plan should be developed so as to be a guide to the teacher so that he can better put across the instructional points that the course proposes to teach. The teacher must be able to do systematic planning with a minimum of writing. In writing plans, long descriptive sentences are unnecessary--incomplete sentences, phrases, or even single words prove effective and are less time-consuming.

The teacher's work should be organized so that time for planning is provided. This should be a time that is relatively free from interruptions--it may be a time when he is alone in his shop or drafting room, or at home in his study. This planning may be the development of a new unit or the analysis of a unit just completed so that it may be revised and more effectively presented the next time it is taught. A plan may seem to be quite well developed, but even the most experienced planners make mistakes which become evident as the plans are used. The skillful teacher should take note of these changes as they come to his attention so that the plans may be revised later--as soon as possible after use. The teacher should continually try to improve and refine his

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7. G. Harold Silvius and Estell H. Curry, Teaching Successfully the Industrial Arts and Vocational Subjects, (McKnight and McKnight Pub. Co., Bloomington, Illinois, 1953), p. 59

plans, eliminating mistakes and smoothing out the problems.

The time will come when, after planning and preparing the lesson, the teacher is faced with the actual teaching situation itself, not in imagination, but face to face. It is logical to assume that the goals attained in the teaching situation will seldom exceed the objectives planned for that particular learning experience. In general, one might say that any satisfactory performance in teaching, or in any of the other higher occupations, is made possible by conscientious study, planning, and preparation, and not by sudden inspiration on the spur of the moment.[8]

The good teacher will constantly strive to improve the effectiveness of his teaching through the use of the various teaching devices that provide sensory experience for the students. The progressive teacher has long used charts, diagrams, models, flat pictures, field trips, the blackboard, the bulletin board, collections of specimens, exhibits, cartoons, and posters in addition to the regular shop equipment. Within the last few years new and valuable forms of visual and auditory aids have appeared. Among these are the motion picture, radio, film strip, television, tape recorder, opaque projector, and sound slide films. These visual and sensory aids are not designed to replace instruction, but to supplement and modernize other methods of instruction. Carefully planned aids attract and hold the attention of the students as well as assist them in the retention of essential information and procedures. Such aids also help to economize time and effort--they are fundamental to verbal instruction because they help to

8. Frank A. Butler, The Improvement of Teaching in Secondary Schools, (The University of Chicago Press, Chicago, Illinois, 1939), p. 365

reduce verbalism or the meaningless use of words or phrases. The old Chinese proverb that a single picture is worth a thousand words expresses the educational value of the visual-sensory teaching devices. "Learn to do by doing" is another expression that illustrates the value of sensory learning. The auditory-visual aids then become devices or procedures that help to make learning more meaningful, more interesting, and more effective.[9]

Another important technique of instruction is the use of questions in the classroom and shop. Good questioning can motivate mental effort, can stimulate reflective thinking, and help to produce creative thinking. Good questions used correctly are educative, and they have a very prominent place in all learning situations. If used in the right way, at the proper time, questions lead to new realms of understanding; they help to organize knowledge; to correlate the results of educational experiences; to tie together units of learning; and to integrate personality.

Good questioning is an art, and to use questions effectively, the teacher must be conscious of certain guiding principles. Obviously, it is important to know when to ask questions. They may be used at the beginning of a lesson in introducing a new subject or in reviewing material covered during previous lessons. Questions should be directed to the students during discussions, planning, and demonstrations. It is good to conclude each lesson with a few questions to check on important points that were stressed during the lesson. Any time left at the end of the period after clean-up can be put to good use by asking questions on the instructional program.

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9. F. T. Struck, Op. Cit., p. 227

Questions should be carefully planned and phrased so that they can be understood by every student. The maturity level of the students must be kept in mind. When new words are used, which is frequently desirable, they should be explained as they are introduced. Oral questions should be short enough to be easily remembered. Questions should be specific rather than general and should require a definite answer rather than a "yes" or "no". Yes-or-no answer questions reveal little about the student's knowledge of the subject matter. The question should be put to the entire class. Then the teacher should call on some one student for the answer. All students will then be more likely to concentrate on the question. All students in the class should be called upon over a period of time, but the rotation plan is not good, because students catch on to the plan and may be alert only when they think it is their turn to answer.

If a student answers a question incorrectly, the teacher should never resort to ridicule. Since one of the objectives of questioning is to stimulate thinking on the part of the students, a slight hint or thought suggestion that would help them answer correctly might even be desirable.

The teacher should guard against asking too many questions, not allowing sufficient time for thoughtful response, and failure to recognize and properly interpret the replies made by the students. Well-selected questions can be very effective in motivating lesson assignments, in stimulating interests, in leading students to see new implications, in extending knowledge, skill, insight, and appreciations.

The value of group discussions in the class should not be overlooked. These discussions must be guided intelligently by the teacher so that the discussion is not carried on by just a few but that all the students should feel free to, and be encouraged to, participate. Discussion is a source of ideas and the individuals who enter into the discussions learn by sharing ideas, experiences, and various points of view. Students may have had the opportunity, at some time or other, to visit some industrial plant or manufacturing center, or they may have become familiar with certain machines and practices through relatives, friends, or some other source. This information might be interesting and even valuable to the class and the students might never have the opportunity to share it except in group discussions. Being able to contribute something worthwhile to the discussion helps the students feel they acutally have a part in the class and helps to promote a more active interest in the work at hand. The relaxed atmosphere of the group discussion will sometimes encourage students to ask questions that will clear up uncertainties where otherwise they might hesitate to ask, fearing to expose their ignorance. Discussions are valuable because they give the students practice in expressing themselves and in developing actual habits of group cooperation and planning.

The demonstration is one of the most important methods for teaching industrial arts lessons. The skillful teacher can make the demonstration appeal to a variety of senses. The students can

actually see what is taking place; they can hear the sounds of the tools or machines; they smell the odor of freshly-cut wood or the odor of cutting oil; and they may even feel a well-planed surface or a well-fitted joint. During the demonstration, attention may be easily directed to the important points which should be observed. The demonstration is an excellent way to gain and hold student interest because the demonstration involves action, and students are naturally intrigued by action of tools and materials.

The demonstration, therefore, can be quite effective, but to be effective, it must not only be well-planned but must also be skillfully performed. One of the surest ways in which a teacher can build prestige with his class is by being able to prepare and present skillful demonstrations. On the other hand, even an occasional failure or lack of skill in demonstrating will surely lower a teacher in the esteem of the class quickly. It is of extreme importance, therefore, that the demonstration be well-prepared. A good demonstration does not begin after the class has assembled and the teacher has started the lesson, but much previous planning and preparation is necessary. The presentation of the demonstration as an end in itself could hardly be justified but there must be a definite purpose in mind--a need for the demonstration and definite objectives to be attained.

The procedure for the demonstration should be carefully worked out so that the steps will be performed in the proper sequence. Materials to be used should be assembled. If machines and tools are to be used, they should be checked and adjusted beforehand to be sure that they are ready to use. To be absolutely sure that

the demonstration will "click," the instructor should run through the procedure before the class arrives. This previous practice can eliminate embarrassing situations where things fail to go as anticipated and the demonstration becomes a failure. A few minutes spent in previous practice will pay great dividends in results.

When the instructor is ready to present the demonstration, he should see that the students are arranged so that all may see and hear. He should explain the purpose of the lesson, calling special attention to the points that are of greatest importance. The instructor should perform the demonstration slowly enough so that the students can see exactly what is taking place, but not so slowly that the lesson seems to drag. The teacher should explain the steps as they are presented and ask questions as the demonstration progresses to make sure his lesson is accomplishing its purpose. It may be necessary to repeat parts of the demonstration so that certain important points will be fully understood. The instructor should conclude the demonstration by briefly reviewing the high points of the lesson and by asking summarizing questions to make sure that the students have understood the demonstration. Putting away tools and materials at the close of the demonstration gives the instructor an excellent opportunity to set an example for the students to follow. If one expects students to take care of their own tools and equipment, the instructor should be willing to do the same.[10]

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10. Gordon O. Wilbur, Industrial Arts in General Education, (International Textbook Company, Scranton, Pennsylvania, 1954), pp. 127-136

Shop Management

If an instructor's teaching practices are to be effective, much depends upon systematic, orderly, democratic procedures in the shop and classroom. Shop and classroom management would surely pertain to the control of the physical conditions, and the materials that make for effective learning. To manage well, the instructor must be concerned with setting up conditions that enable learning to preceed at a maximum rate and along the proper educational and social lines. The instructor who is a good manager will be concerned with the tools and materials of instruction, supplies, equipment, facilities, health factors and safety measures.

Among the physical factors to be considered, good lighting is of extreme importance. The light in every shop and drafting room should be checked with a light meter. Experimental studies have indicated that a minimum of 45 foot-candles at bench height is desirable. Too much light causes glare while not enough light causes shadows which make it difficult, or perhaps even impossible, for some of the students to see well. Sometimes the existing lighting facilities in a shop are not most desirable, but if the instructor is resourceful, he will see that improvements are made, and he will see that all benches, machines, and work areas are arranged so as to make the maximum use of the light available. Provision of the proper quantity and quality of light results in less eye strain, greater accuracy, more rapid progress, improved class morale, greater shop cleanliness, and a definite reduction in the number of shop accidents. Poor illumination is quite frequently the

cause of accidents, and often accidents which are attributed to the individual's carelessness can actually be traced to the difficulty of seeing. For this reason, it might be well to follow the practice of many modern industrial concerns--that of painting machines with a light-tinted durable paint. This increases the amount of light which is reflected to the parts of the machine that are not well lighted. The practice of painting stationary and moving parts of machines in contrasting colors--called color dynamics--is being used in some school shops with an apparent corresponding improvement in accident records.[11]

The teacher must constantly strive to maintain good safety practices in all shop activities. Probably the most effective way to teach safety in school shops and laboratories is to practice safety and teach it through demonstration when the shop or laboratory is in operation. Safety posters, charts, slides, slogans, and motion picutres can be used to impress the students with the need for safety practices.

Accidents in which the school or teacher may be at fault can be divided into two general groups: (1) accidents caused by faulty room conditions and faulty equipment; (2) those caused by inefficient instruction and poor management. The shop teacher in a new situation should set about immediately to improve room conditions if at all possible so that possibilities for accidents will be reduced. Machines may need to be rearranged so that there will be no interference between operators. Safety zones should be plainly marked

11. Series A--Bulletin 123, The Industrial Arts General Shop, (State of Illinois, Board for Vocational Education, Springfield, September, 1950), pp. 62-63

around hazardous equipment. Belts, pulleys, gears, and switches should be properly guarded. The teacher should set the example for the students by wearing the proper clothing in the shop, and he should see that the students also wear proper protective clothing. The instructor should also make sure that there is proper ventilation in finishing rooms where lacquer is used and in rooms where forging, metal casting, or similar work is done. Floor spaces should be kept free of shavings, cuttings, oil, or anything that may cause individuals to slip or fall. Storage racks should be constructed properly and the material stored therein should be arranged systematically.

Much of the responsibility of preventing accidents rests upon the teacher and the efficiency of his instruction. A teacher who is himself uncertain about how to adjust and use various machines and tools could hardly teach his students to use them safely. The teacher, therefore, should be thoroughly familiar with the equipment to be used--the adjustment, operation, and maintenance. The teacher should be sure to give adequate preliminary instruction in the use of any equipment new to the students, and then follow up that instruction by carefully supervising the students' first attempts to use that particular piece of equipment. The teacher should constantly strive to develop in the students the proper attitudes toward safety, and "horseplay" in the shop should never be tolerated.

The industrial arts teacher should constantly guard against fire hazards in the shop. Combustible solvents used in cleaning

brushes should never be used near open flames or in a place that is poorly ventilated. All combustible liquids should be kept in clearly labeled metal cans. Oily rags should be stored in a metal covered can. The teacher should always follow good housekeeping practices and should never allow dust, chips, shavings, scrap wood, or other combustible "clutter" to accumulate.

In most cases, the teacher is the central factor in avoiding accidents. Bearing this in mind, the teacher should realize that better teaching and better organization will help to prevent accidents, and make the shop in general a safe and more enjoyable place to work.

It is reasonable to believe that a safe shop will be a clean shop. The progressive teacher will make sure that students have adequate instructions in shop clean-up practices and will be held responsible for certain clean-up duties. The practice of having students clean up work benches, machines, and the shop in general, is good because it helps to teach pupils habits of order and cleanliness. It helps to promote a democratic atmosphere since all students participate in clean-up, and because they all participate, the amount of work that falls to each one is relatively small. The instructor should not overlook the educational value in teaching pupils to put away their tools and their work, and take care of their clean-up duties without waste of time. If the students are taught to perform their clean-up duties in an efficient, cooperative manner, the time required for shop clean-up and dismissal can be reduced to a minimum.

The efficient teacher will have a systematic and orderly method for arranging and storing tools. The system for each shop should be worked out on the basis of local conditions, and whatever the method chosen, it should be planned so that the tools will be easily accessible and easily checked.

The teacher who manages his shop well will have an efficient system for keeping records. This is partly for his own protection. First of all, his records of each student's work should be clear enough so that he can quickly and easily show any student or parent exactly why a certain grade was given. Secondly, accurate recording of money received and expenditures will protect the teacher against questions concerning financial accounting. Finally, a record of subject matter taught can protect him from charges that certain subject matter had not been adequately taught--especially in the matter of safety instruction. Of great importance also is the influence records have on the improvement of instruction. Carefully kept records will reveal what progress has been made and, on the other hand, will point out weaknesses in the program and places where alterations may be necessary.[12]

The teacher is, to some extent at least, responsible for the equipment, tools, and supplies assigned to his shop. It becomes essential, therefore, that an accurate record be kept of what is currently on hand and of any changes made in equipment during the year. The efficient teacher will have an equipment inventory that contains a complete alphabetical list of all the equipment and supplies on hand. Then as the need for new equipment arises

12. Gordon O. Wilbur, Op. Cit., pp. 259-263

and the supply of certain materials is exhausted, he will make immediate record of these needs. If such is put off until inventory time it is quite easy to forget or overlook important items.

Every well-organized shop should have its own up-to-date reference library. It should contain reference materials essential for the courses being offered. These materials should be located within the shop and accessible to the students at the time they are needed. When suitable facilities are provided for doing reference work in the shop, the students will be more likely to realize the value of using publications as they plan and build their projects. The well-equipped shop library provides opportunity for the students to obtain supplementary information relative to their work.

Another aspect of organization and management not to be overlooked is the orderly distribution of supplies and materials to the students so that no time is wasted by delays after the class enters the shop. The supplies needed should be assembled and prepared before the class meets. To waste class time with preparatory work distracts greatly from the efficiency of instruction and discourages interest and enthusiasm. The key to good management and organization is careful planning and preparation for each class period.

Teacher-Student Relationships

The work of the teacher necessarily brings him into close personal relationships with people--his students, particularly. If his work is to be pleasant and effective, the teacher must establish and maintain good relationships with his students. The first task is to make himself acceptable to his students. The teacher will be more readily accepted by his students if he possesses a good personality, as has been discussed elsewhere in this paper. The teacher should make a real effort to get acquainted with his students--to find out what the students have done in previous shop work and what they would like to do. Knowing what the students have done, and knowing what their special interests are, would surely help the teacher avoid assigning work that would be merely repetitous, or assigning a project that would be distasteful to the student when the same objectives could be attained through the use of a project that the students would be interested in.

In general, the shop work will be more interesting and more meaningful if it is adjusted to individual differences. The factors influencing individual differences are many, but basically they are caused by differences in sex, race, maturity, and home enviromnent. The teacher must be able to recognize these differences and make proper adjustments concerning them, but without showing partiality. The instructor should be a patient listener and a willing counselor when his students share with him their problems, desires, and ambitions. He should show interest in the things that interest his students in and out of school. He should be familiar with, and

take part in, school activities. To be a successful member of a faculty in a school system involves a greater challenge than to be simply a shop teacher. The teacher should willingly accept a reasonable amount of extra-curricular activities which enable him to render special services, and to see the larger aspect of school life. The aim should be not only to teach the shop work, but also to teach students to appreciate qualities that go toward success and happiness in life. Such qualities can, of course, be taught in shop work, but also outside of it.

The industrial arts teacher should be willing to accept the responsibilities of a home room if it is the policy of the school to organize home rooms. The activities carried on by the home room organization are usually many and varied. Usually some of the activities are prescribed by the administration. These include announcements to be made, explanations regarding school programs, and planning for special school activities. Some time, however, is always left to be used at the discretion of the home room teacher. Here the teacher has an excellent opportunity to know the students outside the classroom, and discussions and activities carried on in the home room should be such that would promote desirable teacher-pupil relationships, and that would help to develop desirable habits and ideals in the students. For the industrial arts teacher, the opportunity to mingle with students outside the shop should be especially welcome, for by dealing with materials and mechanical processes constantly one stands in danger of becoming narrow-minded and perhaps unsympathetic.[13]

13. Emanuel E. Ericson, Teaching the Industrial Arts, (Chas. A. Bennett Co., Peoria, Illinois, 1946), p. 326

In most schools there are various club activities organized in which the teacher is expected to take an active part as sponsor, counselor, or guide. The clubs may be organized within regular school hours and form a part of the student program, or they might meet outside the regular school day. These special student activities offer a challenge for the teacher to make the activities more valuable by providing experiences in the broader phases of community living and intelligent citizenship.

We who have chosen teaching as our profession would surely desire to be successful in our efforts to train young people and guide their development so that they may become happy, useful citizens and worthy members of society. With these objectives as our goals, we must not allow ourselves to become stagnant or our teaching practices to become static. We must constantly be striving for improvement. It is certainly not impossible for a teacher to move from mediocrity to excellence by making a few minor changes. However, this transition will never be achieved unless the teacher has the courage and the interest to look at himself and his instructional techniques objectively and honestly. A good self-evaluation chart or check-list will help the teacher conscientiously rate himself and thereby discover personal and instructional shortcomings so that a program of self-improvement can be carried out.

The following self-evaluation check-list has been developed on the basis of the qualifications of the good teacher as discussed in this paper.

SELF-EVALUATION RATING SCALE FOR INDUSTRIAL ARTS TEACHERS

PART I--FACTORS CONCERNING PERSONAL QUALITIES

	Improvement Necessary		
	Little Needed	Some Needed	Much Needed
Personal Appearance and Manner			
1. Do I dress neatly, attractively and appropriately?	____	____	____
2. Do I always wear protective clothing in the shop?	____	____	____
3. Do I have my shop clothes laundered regularly?	____	____	____
4. Am I alert and well-poised when talking to my students?	____	____	____
5. Do I keep calm when confronted with petty annoyances?	____	____	____
6. Do I try to understand my students?	____	____	____
7. Do I take an active interest in my students?	____	____	____
8. Am I confident when presenting new material?	____	____	____
9. Do I project humor into my teaching?	____	____	____
10. Am I enthusiastic and interested in my work?	____	____	____
11. Am I courteous in my contact with others?	____	____	____
Voice and Quality of English			
12. Am I careful to project my voice well?	____	____	____
13. Do I pronounce my words clearly and distinctly?	____	____	____
14. Do I constantly try to improve my speech defects?	____	____	____
15. Do I attempt to improve oral grammatical errors?	____	____	____
16. Do I use language that is easily understood by my students?	____	____	____
17. Do I have a good command of words?	____	____	____
18. Are my explanations and instructions easily understood?	____	____	____
19. Do I use technical terms correctly?	____	____	____

	Improvement Necessary		
	Little Needed	Some Needed	Much Needed
Ingenuity and Resourcefulness			
20. Am I willing to use new projects and materials?	_____	_____	_____
21. Am I alert for improvements in the shop?	_____	_____	_____
22. When I make mistakes do I frankly admit them?	_____	_____	_____
23. Do I try to relate subject matter to real-life experiences?	_____	_____	_____
24. Do I make good use of all available teaching materials?	_____	_____	_____
25. Do I make sure that the information I present to my students is correct?	_____	_____	_____
26. Am I punctual in meeting my classes?	_____	_____	_____
27. Do I have the ability to cope with discipline problems?	_____	_____	_____
28. Do I adapt to new or unusual situations easily?	_____	_____	_____
29. Do I have the ability to solve my own teaching problems?	_____	_____	_____

PART II--FACTORS CONCERNING PROFESSIONAL QUALITIES

Mastery of Subject Matter			
30. Have I sufficient mastery of the manipulative skills?	_____	_____	_____
31. Do I possess adequate subject matter related to my field?	_____	_____	_____
32. Do I add to my knowledge of industrial arts by reading current publications on the subject?	_____	_____	_____
33. Do I take additional courses in shop work occasionally?	_____	_____	_____
34. Do I visit other school shops and compare ideas with other shop teachers?	_____	_____	_____
35. Do I visit industrial plants in the community and become familiar with recent industrial developments?	_____	_____	_____

	Improvement Necessary		
	Little Needed	Some Needed	Much Needed
Techniques of Instruction			
36. Do I make adequate advanced preparation for classes?	_____	_____	_____
37. Is my instruction well planned and organized?	_____	_____	_____
38. Do I continually try to improve my teaching plans and techniques?	_____	_____	_____
39. Do I supplement my instruction with the use of visual aids?	_____	_____	_____
40. Do I take my classes on field trips occasionally?	_____	_____	_____
41. Do I carefully plan and phrase my questions so that they can be understood by every student?	_____	_____	_____
42. When I use new words, do I explain their meaning?	_____	_____	_____
43. Do I avoid asking questions that can be answered by "yes" or "no?"	_____	_____	_____
44. Do I always put the question to the class and then ask a certain student to answer it?	_____	_____	_____
45. Am I careful to not ridicule a student when he answers a question incorrectly?	_____	_____	_____
46. Do I allow for group discussions in the classroom?	_____	_____	_____
47. Do I encourage students to ask questions during discussion periods?	_____	_____	_____
Demonstration Techniques			
48. Are my class demonstrations carefully planned and skillfully performed?	_____	_____	_____
49. Do I practice my demonstration before presenting it to the class?	_____	_____	_____
50. Am I careful to arrange my students during a demonstration so that all may see?	_____	_____	_____
51. Do I put away my tools and materials after the demonstration is completed?	_____	_____	_____

		Improvement Necessary		
		Little Needed	Some Needed	Much Needed
52.	Do I try to improve the physical conditions of my shop?	____	____	____
53.	Do I arrange the work benches and machines in such a way so as to make maximum use of the light available?	____	____	____
54.	Do I see that there is proper ventilation in my shop?	____	____	____
55.	Do I try to maintain a clean and attractive shop and classroom?	____	____	____
56.	Am I careful to see that students put away their tools and materials when the period is over?	____	____	____
57.	Do I have a well planned system for storing tools?	____	____	____
58.	Are the tools easily accessible and easily checked?	____	____	____
59.	Do I keep an accurate record of my students' progress?	____	____	____
60.	Do I keep a complete alphabetical list of all the equipment and supplies on hand?	____	____	____
61.	Do I make immediate record of needs for supplies and equipment as they arise?	____	____	____
62.	Do I maintain an adequate up-to-date shop reference library?	____	____	____
63.	Do I have an efficient system for issuing supplies and materials to the students?	____	____	____
	Safety Practices			
64.	Do I stress the importance of safety practices in using tools and machines?	____	____	____
65.	Do I incorporate these safety practices when giving a demonstration?	____	____	____
66.	Do I make use of safety posters, charts, and slogans?	____	____	____
67.	Am I careful to see that the students have their machine properly adjusted for doing a certain operation?	____	____	____

	Improvement Necessary		
	Little Needed	Some Needed	Much Needed
68. Do I emphasize the fact that "horseplay" is not tolerated in the shop?	_____	_____	_____
69. Am I careful to eliminate fire hazards?	_____	_____	_____
Relationships With Students			
70. Do I strive to make myself acceptable to my students?	_____	_____	_____
71. Do I make a conscientious effort to get acquainted with my students?	_____	_____	_____
72. Do I try to adjust shop experiences to individual differences?	_____	_____	_____
73. Am I impartial in all dealings with students?	_____	_____	_____
74. Am I a patient listener and a willing counselor in regard to students' promlems, desires, and ambitions?	_____	_____	_____
75. Do I try to instill in my students a feeling of status and belonging?	_____	_____	_____
76. Do I show interest in the things that interest my students both in and out of school?	_____	_____	_____
77. Do I guide students in their plans rather than dominate them?	_____	_____	_____
78. Do I commend students more often than rebuke them?	_____	_____	_____
79. Do I go out of my way to help less fortunate students?	_____	_____	_____
80. Do I note and make adjustments for physical handicaps of students?	_____	_____	_____
81. Am I willing to take an active part in extra-curricular activities?	_____	_____	_____

SUMMARY

Those who have chosen to become members of the teaching profession--whether they have just completed teacher-preparation courses, or have had several years of experience--realize that the teacher is in an extremely responsible position--that of helping to mold the character and to develop the potentialities of young people in the classroom. The conscientious teacher will have the desire and strive, to the best of his ability, to accomplish the objectives of education in every phase of his teaching program. There must be some systematic means by which a teacher can discern whether or not his teaching is effective and he is attaining the educational goals that have been set up.

Self-evaluation is one approach which can be a definite help to the teacher who has a real desire to know what he is acutally accomplishing and who is determined to improve and to grow professionally. There is a real need for self-evaluation because one's actions and accomplishments are constantly being evaluated by others--often quite incidentally, but on the other hand, often quite deliberately--and, while others might be well aware of a teacher's faults and poor teaching practices, those criticisms probably would not be made known to the teacher himself, especially if the criticisms were not of serious proportions. Moreover, one is likely to be more tolerant of self-inflicted criticism, and be more anxious to launch a program for improvement when he himself is able to realize his need for it.

There are certain basic criteria which can be used as a basis for self-evaluation and self-rating that will give a teacher a better

idea of his own teaching program and instructional practices. Certain general characteristics have come to be accepted as desirable qualities for all teachers to possess, and certain instructional practices have been accepted as most effective for the teacher of industrial arts. These criteria for self-evaluation are divided into two broad areas--the personal elements and professional elements. The personal elements are those factors which constitute a teacher's character and personality. They include his appearance and manner; his voice and quality of English; and his ingenuity and resourcefulness. The professional elements include the teacher's knowledge of his subject matter, his instructional techniques, his professional growth, co-operation with others, and his relationship with students and their parents. All these qualities are as far reaching for the industrial arts teacher in their influence upon students as they are for any other teacher.

The teacher who desires to be successful and efficient must be willing and able to look at himself and his teaching practices critically and honestly in order to discover what adjustments need to be made. The Self-Evaluation Rating Scale as outlined in this paper provides the "tool" to be used, by the individual teacher in discovering his own weaknesses and need for improvement. If used only as an end in itself, the self-evaluation scale is of little effect, but if used as a guide toward setting up a program of self-improvement it can often be the means of helping a teacher move from mediocrity to excellence.

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